

AP0029764

ned demonstrated depression of the phagocytic and bactericidal functions of the blood, reduced biological activity of the skin (inhibition of its bactericidal properties), along with a sharp increase in the number of microbes on the buccal mucosa, especially of those belonging to pathogenic strains. Bacteriological analysis of the air disclosed that the microbial count in departments without windows and skylights was 5 times as high as in the atmosphere of ordinary industrial shops. The authors presume that the rise of the overall sick-rate should be attributed to a considerably disturbed state of natural immunity.

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UDC 632.95

ALIMOV, P. I., VASHKOV, V. I., VOLKOVA, A. P., ZAKOLODKINA, V. I., IRANDOVA, I. I., KERBABAYEV, E. B., NEKLESOVA, I. D., STERL'NIKOVA, G. N., FROLOVA, A. I.

"Insecticidal Properties of Methyl-O-Ethyl (Carbethoxymethyl) Dithiophosphonate"

Tr. VNII dezinfektsii i steriliz. (Works of the All-Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 73-76 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18N42?)

Translation: The results of experiments in studying the insecticidal activity of $\text{Me}(\text{EtO})\text{P}(\text{S})\text{SCH}_2\text{COOEt}$ (I) (boiling point $89-92^\circ\text{C}/0.02$, $n^{20}\text{D}$ 1.5220) show that the compound has a fumigation effect and some contact action, but less than chlorophos. When applied to absorptive surfaces, the chemical is completely ineffective against household insects. Compound I has fumigatory activity against houseflies and is a larvicide against maggots.

T. A. Belyayeva.

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USSR

UDC 632.95

ALIMOV, P. I., VASHKOV, V. I., VOLKOVA, A. P., ZAKOLODKINA, V. I., ZUBOVA, G. M., IRANDOVA, I. I., KERBABYEV, E. B., NEKLESOVA, I. L., STREL'NIKOVA, G. N., and FROLOVA, A. I.

"Insecticidal Properties of O-Methyl-O-Dichlorovinyl-N-Dimethyl Amidophosphate"

Tr. VNII dezinfektsii i steriliz. (Works of the All Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 68-73 (from RZh-Khimiya, No 18, Sep 72, Abstract No 184423)

Translation: The substance of formula $(\text{MeO})\text{Me}_2\text{NP}(\text{O})\text{OCH}=\text{CCl}_2$ (I) has strong contact, fumigation and intestinal action at the instant of application on houseflies, bedbugs and red cockroaches; the agent is not as strong as other organophosphorus insecticides with respect to mosquitoes. The most active form for application to a glass surface is a water emulsion prepared from compound I with OP-7 (1:1) and a solution in acetone. An alcohol solution is considerably less active. An investigation is made of the larvicidal activity of compound I. The insecticide has no residual effect.
T. A. Belyayeva.

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USSR

UDC 621.315.592

NESMELOVA, I. M., BARYSHEV, N. S., VOLKOVA, F. P., CHERKASOV, A. P.

"Reflection Spectra of Single Crystals of $Cd_{x}Hg_{1-x}Te$ Solid Solutions"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 5, 1972, pp 950-951

Abstract: A study was made of the reflection spectra of $Cd_{x}Hg_{1-x}Te$ single crystals as a function of the electron concentration n_0 and the cadmium telluride content at room temperature. The studies were performed on n-type single crystals grown by the vertical zone refining method. The electron concentration varied from 10^{15} to 10^{18} cm^{-3} , and samples were studied with a composition of $x = 0.17-0.46$. For specimens with an electron concentration of less than 10^{17} cm^{-3} , the reflection coefficient for fixed wave lengths increases with a decrease in the cadmium telluride content in the solid solution. Thus, the index of refraction increases with a decrease in x . Obvious plasma minima were observed in the reflection spectra of the specimens with $n_0 = 5 \cdot 10^{17}-2 \cdot 10^{18} \text{ cm}^{-3}$, by the position and magnitude of which the effective electron masses were calculated. The tabulated data include the values of the effective masses of the electrons calculated by Keyn [Cane] theory. We experimentally obtained values of m_n/m_0 agreeing with the values calculated by Keyn theory.

- 200 -

VOLKOVA, G.A.

Radar

SA: 34755 - 56143
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01 June 72

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MULTIFILTER DETECTION CIRCUIT DESIGN - 1980

卷之三

N. T. MURRAY, Candidate of Technical Science,
A. S. Proct., Engineer

The system for detecting radar signals with an unknown parameters, for example, a Doppler filter, in conjunction with an array of filters matched with all possible ranges of the signal parameters, can use a filter bank matched with all possible directions of the signal. Such detector voltages of the filters are equalized, and the signals, which occur in the system of the null-hypothesis test, for example, in reference [1], may undergo the interval, the system is unrealizable since the number of filters becomes infinite.

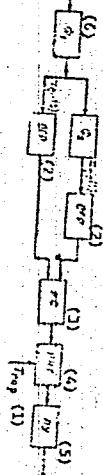


Figure 2. Bicker diagram of the planar autocorrelation

- | | | | |
|----|-------------------|----|-------------------|
| 1. | thrush | 4. | generator |
| 2. | isotrop | 5. | chargeable device |
| 3. | coherence cascade | 6. | filter |

by a finite number of given integers, although no integer in the Jenson bracket is necessarily a ratio, since the signal frequency reaches or exceeds detection. D is a function of the natural frequency difference of the signal and the central filter frequency and is of significant importance for the construction of such a system.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002203520019-7

USSR

UDC 621.371.332.3:621.391.883.6

VOYNICH, B. A., VOLKOVA, G. A., ANDREYCHUK, M. V., ANDRIANOV, V. A.

"Effect Which a Priori Information Concerning the Location of an Object has on the Quality of Radar Detection"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 190-197 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G20)

Translation: Consideration is given to the possibility of using a priori data on the location of objects within a given range of distances to calculate the energy potential of a radar. Relations are given for the probability of taking the correct decision as a function of the probability of correct detection and the probability of a false alarm. It is shown that the power required by the transmitter can be reduced in the case of a normal probability density function for target range. Eight illustrations, bibliography of three titles. Resumé.

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USSR

UDC 621.371.332.3:621.391.883.6

VOLKOVA, G. A., YUDITSKIY, A. I., PRONIN, A. S.

"A Multifilter Detection Circuit Using a Phase Autocorrelator"

Tr. Mosk. aviats. in-ta (Works of Moscow Aviation Institute), 1971, vyp. 207, pp 209-216 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12G21)

Translation: The paper gives an analysis of the operation of a phase autocorrelator when the frequency of the received signal does not coincide with that of the filter tuning. A relation is found for the probability of correct detection as a function of the difference between the signal frequency and the central matching frequency of the filter. This relation is used as a basis to show that a multifilter system can be constructed with the use of a phase autocorrelator. Three illustrations, bibliography of four titles. Resumé.

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VOLKOVA, I.A.

JRS SP25
21 Feb 73

UDC: 616-082(470.26-22)
CENTRALIZATION OF MEDICAL CARE IN RURAL AREAS (ON THE MODEL OF
KALININGRADSKAYA OBLAST)

[Article by V.P. EGOROV, I.Yu. POKROVSKAYA, M.P. KOMAROV,
I.A. VOLKOVA, V.M. BURBAN, ALL-UNION SCIENTIFIC RESEARCH INSTITUTE OF
SOCIAL MEDICINE AND PUBLIC HEALTH ORGANIZATION, Leningrad; N.A. SEMENOV,
USSR MINISTRY OF HEALTH, MOSCOW; Sovetskaya Zdravookhranenie,
Russia, No. 1, 1972, submitted 3 August, 1972, pp. 18-31]

The program of the CPSU provides for meeting in full the demands of the urban and rural population with respect to all forms of highly qualified medical care. The need for bringing the level and quality of medical care in rural areas closer to the level provided to urban regions was indicated in the decision of a session of the USSR Supreme Council (June, 1968) and Decree of the Central Committee of the CPSU and USSR Council of Ministers, No. 317 dated 5 July 1968: "On... the Measures for Further Improvement of Public Health and Development of Medical Science in the Country"; this was also discussed at the 24th Congress of the CPSU.

The system of medical care based on the principle of structure, providing and combining a set of therapeutic and prophylactic institutions, provides the rural population with all forms of qualified specialized medical care. More than 100,000 different qualified prophylactic institutions participated in implementing this task in 1971 they included more than 15,000 hospitals, 247 of them oblast hospitals (residential, republic level), 2,389 central rayon, 749 district (rural), and 11,051 rural district hospitals.

The existing system of public health organization has made it possible to eliminate almost entirely the difference between availability of hospital care for the rural and urban population achieved, to some extent, by hospitalization of rural residents in urban hospitals. In some Republics, in 1970, the rural population was hospitalized in urban hospitals, more than 40 percent of the rural population as a whole, an average of 204 per 1,000 rural residents were hospitalized, and this applied to 207 per 1,000 urban residents.

USSR

UDC 621.791.052:621.318.23.002.612

VOLIKOVA, I. G., Candidate of Technical Sciences, KARAN, YU. B., AU Union
Scientific Research Institute for Chemical Machine Building, and STROYEV, V. S.,
Engineer, Moscow Experimental Welding Plant

"The Effect of the Ferrite Phase on the Corrosion Resistance of Welded Kh18NiOT
Steel Joints"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 11-13

Abstract: The effect of the ferrite phase on the corrosion resistance of welded joints of Kh18NiOT steel was investigated. Tests were carried out on 5.5 x 30-mm weld metal and welded samples cut from the two upper layers of ten-fold welds. The given ferrite quantity in the metal welded by electrodes made of test metals and various alloy compositions was achieved by varying the metallic Cr and FeNb content in the deposited composition. The ferrite content in the welded metal was determined by a volume method on a ballistic facility and in the weld metal by an alpha-phase-meter. The chemical composition of Kh18NiOT steel is given in a table. The effect of the ferrite on the corrosion resistance of the welded metal was determined by a test in 65% boiling nitric acid (5 cycles of 48 hr), and also by the AM method (GOST 60 32-58), and in production on samples with transversal, longitudinal, and criss-cross welds.

USSR

VOLIKOVA, I. G., et al, Sverochnoye Proizvodstvo, No 3, Mar 70, pp 11-13

The corrosion resistance was evaluated by weight-loss data and by metallographic analysis. The nature of the dissolution of welded metals produced by CrNi and standard electrodes in 65% nitric acid is discussed. The results show that the presence of titanium or niobium in a CrNi solid solution reduces its corrosion resistance. Tests conducted on welded samples by the Aisi method showed that not a single sample was disposed toward intercrystalline corrosion. They also show that the presence of ferrite (regardless of quantity) in the welded alloys of Kh18N10T steel does not reduce its corrosion resistance in media. An increased niobium content in type-18-8 welded metal (with an Nb/C ratio of 12 or more) reduces its corrosion resistance. Orig. art. has: 2 figures, 4 tables, and 5 references.

2/2

Microbiology

USSR

UDC 616.981.57-612.178

VOLKOVA, I. N., Professor, and POPOV, A. F., Candidate of Medical Sciences,
Departments of Physiology and Clinical Surgery, Kazan' Medical Institute imeni
S. V. Kurashov, Kazan'

"The Effects of *B. perfringens* Toxin on the Functional State of Extracardial
Innervation"

Kazan', Kazanskiy Meditsinskiy Zhurnal, No 1, 1973, pp 32-34

Abstract: Studies on the effects of intoxication with *B. perfringens* toxin on the innervation of the heart were conducted with dogs injected intramuscularly with different quantities of the toxin. The results showed that while the threshold for stimulation of the vagus nerve was raised and, consequently, the inhibitory effect of the vagus on the heart was decreased, this was a nonspecific effect which is frequently observed in other infections (diphtheria, peritonitis). However, studies with sympathetic stimulation showed that injection of the toxin initially elevated the threshold of stimulation at 2-3.5 hrs (from a normal of 7.13 ± 0.78 ma to 8.15 ± 2.3 ma) and depressed the positive inotropic and chronotropic effects (from $185.2 \pm 10.6\%$ to $137.8 \pm 9.46\%$ and from $114.6 \pm 4.1\%$ to $109.0 \pm 4.0\%$, respectively). At 4 hrs the threshold for the stimulation of the sympathetic innervation of heart was lowered to 3.16 ± 0.8 ma in the toxin treated dogs, and 1/2

USSR

VOLKOVA, I. N. and POPOV, A. F., Kazanskiy Meditsinskiy Zhurnal, No 1, 1973,
pp 32-34

the positive inotropic and chronotropic effects were increased to $215.6 \pm 16\%$ and $121 \pm 2.3\%$, respectively. At the end of the first postinjection day the respective parameters for the sympathetic threshold, positive inotropic and chronotropic effects were 7.0 ± 1.96 ma, $121.9 \pm 2.5\%$, and $105.0 \pm 1.0\%$. Chronic experiments with daily administration of small quantities of the toxin weakened the positive inotropic effect due to sympathetic stimulation. The results were explained on the basis of decreased synthesis of the adrenergic mediators in the adrenals as a result of toxin administration.

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1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PROPERTIES OF ALKYL SULFATES BASED ON HYDROOKIDATE ALCOHOLS -U-

AUTHOR--(03)-VOLKOVA, L.D., YATSENKO, L.V., BUKHSHTAB, Z.I.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTKHIM. (MOSCOW) 1970, (4), 53-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--FABRIC, DETERGENT, ALKYL RADICAL, SULFATE, FOAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605012/C07 STEP NO--UR/0318/70/000/004/0053/0055

CIRC ACCESSION NO--AP0140271

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140271

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO PREP. "HYDROOXIDATE ALCS.," PARAFFIN WAX IS OXIDIZED, THE PRODUCT EXTD. WITH MEOH TO REMOVE UNREACTED HYDROCARBONS, THE CARBOXYLIC ACIDS METHYLATED, AND THE ME ESTERS HYDROGENATED. CRUDE OR PURIFIED ALKYL SULFATES PREPD. FROM THE "HYDROOXIDATE ALCS." HAD HIGH FOAMING CAPACITY WITH DISTD. H SUB2 O, BUT A LOW ONE WITH HARD WATER, DUE TO THEIR CONTENT OF C SUB16POSITIVE ALKYL SULFATES, WHICH GAVE CA INSOL. SALTS. PURIFIED ALKYL SULFATES GAVE SUITABLE PASTE AND POWD. DETERGENTS, ESP. WHEN MIXED WITH FOAMING ADDITIVES, FOR BOTH COTTON AND WOOLEN FABRICS. FACILITY: KHARKOV. POLITEKH. INST. IM. LENINA, KHARKOV, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPOSITION OF DIETHANOLAMIDES OF SYNTHETIC FATTY ACIDS -U-

AUTHOR-(103)-VOLKOVA, L.D., YATSENKO, L.V., PORATUYEVA, S.S.

COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (1), 37-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHANOL, AMIDE, FATTY ACID, DEMULSIFICATION, CHEMICAL
SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0808

STEP NO--UR/0318/70/000/001/0037/0039

CIRC ACCESSION NO--AP0119715

UNCLASSIFIED

2/2 011

CIRC ACCESSION NO--AP0119715

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO OBTAIN 92-3PERCENT DIETHANOLAMIDE DEMULSIFIER FROM THE CONDENSATION OF ME ESTERS OF FATTY ACIDS WITH DIETHANOLAMINE (II) AT 100DEGREES, 0.2-0.3PERCENT NA AS THE NA ALCOHOLATE OF I WAS USED AS CATALYST. A 3PERCENT EXCESS OF I MUST BE USED. NaOME AS CATALYST GAVE A HIGHER YIELD, BUT THE PURITY OF THE DIETHANOLAMIDES IMPROVED DURING STORAGE.

UNCLASSIFIED

L/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--SYNTHESIS OF OPTICALLY ACTIVE POLY(MENTHOXYALKYL) AND POLY
(MENTHOXYCARBONYL) POLYSILOXANES -U-

AUTHOR--(04)-ANDRIANOV, K.A., VOLKOVA, I.M., KLABUNOVSKIY, E.I., MAMEDOV,
A.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN, SER. B 1970, 12(1), 6-10

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SILOXANE, POLYCONDENSATION, OPTIC ACTIVITY, CHEMICAL
SYNTHESIS, ORGANOSILICON COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0924

STEP NO--UR/0460/70/012/001/0006/0010

CIRC ACCESSION NO--AP0055622

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055622

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE HYDROLYTIC POLYCONDENSATION OF
NEST(OET) SUB2 CH SUB2 CH SUB2 OR (R IS MENTHYL) WITH 3PERCENT HCL SOLN.
AT 50-60DEGREES GAVE (ROCH SUB2 CH SUB2 SIMEO) SUBN (HOCH SUB2 CH SUB2
SIMEO) SUBN. THE POLYCONDENSATION OF RO(CH SUB3) SUB3 ISIMECL SUB2 IN
(RO(CH SUB2) SUB3 SIR PRIME1 O) SUBN (I) (R PRIME1 EQUALS ME).
SIMILARLY, O(SIME SUB2 CH SUB2 CH SUB2 CO SUB2 R) SUB2 (III) (OSIMECH
(CHMECO SUB2 R) SUBN, (OSIMECH SUB2 CH SUB2 CO SUB2 R) SUBN, (OSIME
(CHMECO SUB2 R) SUBN (III), I (R PRIME1 EQUALS ET. OR PH), (ROCH SUB2 CH
SIO-SUB1.5) SUBN, (O SUB1.5 SICH SUB2 CHMECO SUB2 R) SUBN, (RO(CH SUB2) SUB3
SICH SUB2 CO SUB2 R) SUBN, AND O SUB1.5
OPTICALLY ACTIVE AND (EXCEPT III) DO NOT DECOMP'D. ALL THESE POLYSILOXANES ARE
II IS DISTILLABLE AT 205DEGREES-05 MM.

UNCLASSIFIED

USSR

UDC 547.953 + 547.455

VOLKOVA, L. V., LUCHINSKAYA, M. G., SANDYLOVA, N. A., and PREOBRAZHENSKIY,
N. A. (deceased), Moscow Institute of Fine Chemical Technology imeni M. V.
Lomonosov

"Synthetic Studies of Glycoiphospholipids. II. Synthesis of 1,2-Distearoyl-
glyceryl-3-phosphoryl-6'-(1',2';3',4'-dicyclohexylidene)-D-Galactose"
Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71, pp 446-449

Abstract: Synthesis of title compound is described. A -D-Galactose was converted to 1,2;3,4-dicyclohexylidene-D-galactose (I) by a reaction with cyclohexanone in anhydrous benzene in presence of sulfuric acid. Treatment of (I) with p-toluenesulfonyl chloride yields 6-tosyl-1,2;-3,4-dicyclohexylidene-D-galactose (II), which reacts with sodium iodide in dimethylformamide to give 6-iodo-6-deoxy-1,2;3,4-dicyclohexylidene-D-galactose (III). The lipid moiety used in further condensation was the dibenzyl ester of 1,2-distearoylglyceryl-3-phosphoric acid (V), which was obtained by condensation of glycerine-1,2-distearoyl-3-iodohydrine with the silver salt of dibenzyl phosphate. Anionic debenzylation with sodium iodide yields the sodium salt of 1,2-distearoylglyceryl-3 monobenzyl phosphate which then is converted to the silver salt of the monobenzyl ester of 1,2-distearoylglyceryl-3-phosphoric acid (VI).

USSR

VOLKOVA, L. V., et al, Zhurnal Obshchey Khimii, Vol 41 (103), No 2, Feb 71,
pp 446-449

Finally, condensation of (III) with (VI) in anhydrous benzene gave 1,2-dis-
tearoylglyceryl-3-monobenzylphosphoryl-6'-(1',2';3',4'-dicyclohexylidene)-D-
-galactose, which could be reduced to the title compound -- 1,2-distearoyl-
glyceryl-3-phosphoryl-6'-(1',2';3',4'-dicyclohexylidene)-D-galactose.

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1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SYNTHETIC STUDIES ON GLYCOPHOSPHOLIPIDS. I. SYNTHESIS OF
1,2:3,4,DI,
AUTHOR--(04)--LUCHINSKAYA, M.G., VOLKOVA, L.V., STUPNIKOVA, V.A.,
PREOBRAZHENSKIY, N.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHM. 1970, 40(4), 915-918
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIPID, GALACTOSE, HETEROCYCLIC OXYGEN COMPOUND, ORGANIC
SYNTHESIS, STEARIC ACID, PYRIDINE, SULFONE, ORGANIC PHOSPHATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0986

STEP NO--UR/0079/70/040/004/0915/0918

CIRC ACCESSION NO--AP0134702

UNCLASSIFIED

2/2 009
CIRC ACCESSION NO--AP0134702 UNCLASSIFIED PROCESSING DATE--04DEC70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PYRIDINE SHOWN ON MICROFICHE.
KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.295.5'71'292

VOILOVA, M. A., and KORNILOV, I. I., Moscow

"Study of Phase Equilibria and Some Properties of the Alloys of the TiAlV₅Al₈ Section of the Ti-Al-V System"

Moscow, Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 202-204

Abstract: This paper contains the procedure and results of a study of alloys of the Ti-Al-V system by a section through the compounds TiAl and V₅Al₈. The systems formed by the metal compounds are of interest in connection with the fact that they can be used as the bases when creating new construction materials. The alloys were investigated using the methods of thermal and microstructural analysis, x-ray micrography, and measurements of the hardness, microhardness, and electrical resistance. The data from these studies are presented and the polythermal section of TiAl-V₅Al₈ of the Ti-Al-V system is constructed. It is noted that in the solid state the compounds TiAl (γ -phase) and V₅Al₈ (δ -phase) are in equilibrium and the section between them can be considered as quasibinary after completion of crystallization. The indicated compounds form a system with mutual limited solubility of the components in the solid state. The solubility

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USSR

VOLKOVA, M. A., and KORNILOV, I. I., Izvestiya Akademii Nauk SSSR -- Metally, No 5, 1970, pp 202-204

of vanadium in TiAl at $1,100^{\circ}\text{C}$ is ~19 atomic %, and the solubility of titanium in V_5Al_8 at $1,100^{\circ}\text{C}$ is 2 atomic %. The hardness and specific electrical resistance of the alloys increases from the composition of the compound TiAl as the vanadium concentration in the alloys increases.

From the data on variation of the lattice periods of the γ -solid solution based on the TiAl compound of the alloys of the TiAl-V₅Al₈ section quenched from $1,100^{\circ}\text{C}$, it is concluded that the lattice period decreases with an increase in the vanadium content; then it remains constant in the two-phase domain ($\gamma + \delta$). The values of the period c for all vanadium concentrations remain constant in practice. The axial ratio c/a increases with an increase in the vanadium content. These data and the results of microstructural analysis and variation of microhardness show that the boundary of the two-phase region $\gamma + \delta$ at $1,100^{\circ}\text{C}$ is located at 19 atomic % V (26 weight %).

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- 65 -

Mechanical Properties

USSR

UDC 669.295.5'71'1

VOLKOVA, M. A., and KORNILOV, I. I., Moscow"Study of Phase Equilibria and Certain Properties of Alloys in the Ti-Al-Fe and Ti-Al-V Systems"Moscow, Izvestiya Akademii Nauk SSSR, Metallo, No 1, Jan 71,
pp 200-205

Abstract: Partial state diagrams of the Ti-Al-Fe and Ti-Al-V trinary systems were studied by thermal, microstructural, and x-ray analysis, and by measurements of electrical resistance and hardness. Mechanical properties of certain alloys were studied at 20, 600, and 800°C. Isothermal cross sections of the system were constructed at 1100, 800, and 550°C. It was established that the following processes occur in the titanium corners of the trinary systems:

in the Ti-Al-V system

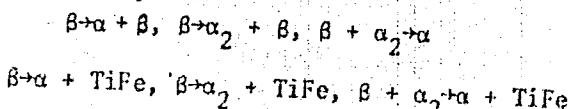
 $\beta \rightarrow \alpha + \beta$, $\beta + \alpha_2 \rightarrow \beta$, $\beta + \alpha_2 \rightarrow \alpha$,

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USSR

VOLKOVA, M. A., and KORNILOV, I. I., Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 200-205

and in the Ti-Al-Fe system



(four-phase peritectoid process). The presence of a phase equilibrium between the compounds TiAl and V_5Al_8 was discovered in the Ti-Al-V system. Studies of the mechanical properties of the alloys indicated that iron increases the ultimate strength and hardness of Ti-Al alloys more effectively than vanadium, with a greater decrease in plasticity. Both iron and vanadium increase the strength of Ti_3Al titanium Aluminide both at room temperature and at 800°C , but the plastic properties of alloys based on this compound remain low at 20 and 800°C .

2/2

USSR

UDC 669.017.1:539.56.001.5

GULYAYEV, A. P., VOLKOVA, M. A., VISHVANYUK, I. M., KOZLOV, N. P., and
MATSNEVA, YE. G.

"Mechanical Properties of 10GT Steel at Negative Temperatures and Influence
of Imitated Welding Cycle on the Cold Brittleness Threshold"

Spetsial'nyye Stali i Splavy (Special Steels and Alloys --- Collection of
Works), No 77, Metallurgiya Press, 1970, pp 181-187

Translation: It is established that the mechanical properties of all melts
and shapes of 10GT steel studied, tested at -60°C , satisfy the require-
ments of All-Union State Standard GOST 5781-61, while the impact tough-
ness in the hot-rolled state at -60°C is 1,000-2,200 kJ/m^2 ($10-22 \text{ kg}\cdot\text{m}/\text{cm}^2$).

The cold brittleness threshold of periodic profile No 16-32 of 10GT
steel lies in the interval from -80 to -100°C . Fully viscous fracture of
the steel occurs at room temperature.

The cold brittleness threshold of 10GT and St5 steels after a weld-
ing cycle is practically independent of preliminary heat treatment. The
use of heat treatment for welded products is undesirable, since welding
reduces its effectiveness. 2 figures; 1 table.

1/1

USSR

UDC 576.858.6.083.35.07 (11)

ZHDANGV, V. M., BYKOVSKIY, A. F., AL'TSHTEYN, A. D., LOZINSKIY, T. F., URYVAYEV, L. V., VOLKOVA, M. L., YERSHOV, F. I., IL'IN, K. V., BEKTEMIROV, T. A., IRLIN, I. S., MILLER, G. G., ZAKHAROVA, L. G., PEREKREST, V. V., GERASINA, S. F., and SEVAST'ANOVA, M. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and the Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Moscow

"Detection of Oncornaviruses in Continuous Tissue Cultures"

Moscow, Voprosy Virusologii, No 4, 1973, pp 411-414

Abstract: Studies were conducted on a number of human and animal continuous tissue cultures maintained in medium 199 containing 10% bovine serum to determine oncornaviruses. Formation of oncornaviruses in the tissue cultures were followed by the appearance of viral particles in the culture fluid labeled with H³-uridine, susceptibility of their synthesis to low actinomycin D concentrations, appearance of these particles following inhibition of nuclear material synthesis by bromodeoxyuridine or mitomycin, presence of reverse transcriptase in these particles, presence of 60-70 S RNA in these particles, and electron microscopy. Of the 26 human lines investigated 14 contained type B oncorna virus, and 4 lines type C virus. Eight of the 1/2

USSR

(11)

ZHDANOV, V. M., et al., Voprosy Virusologii, No 4, 1973, pp 411-414

14 animal lines studies also showed the presence of oncornaviruses. The source of these viruses in the human lines remains unclear, but the source may have been bovine serum or porcine trypsin used in the preparation of cell suspension. It is noteworthy that type B viruses were isolated in human cultures of epithelial origin, while type C viruses in human cultures of leukotic or sarcomatous origin.

2/2

- 25 -

1/2 024 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF ULTRAVIOLET RAYS ON SINGLE LAYER SEPARATION SURFACES OF
LIPOVITELLIN -U-
AUTHOR-(CB)-TENGUR, A.M., VULKOVA, M.S., PAVLOVSKAYA, T.YE.

COUNTRY OF INFO--USSR

SOURCE--RADICBIULOGIYA 1970, 10(2), 283-8

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIPID, ELECTRON MICROSCOPY, UV RADIATION BILOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO---FD70/605004/C02 STEP NO--UR/0205/70/010/002/0283/0238

CIRC ACCESSION NO--APO139612

2/2 024

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139612

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DENATURATION OF LIPOVITELLIN BY UV (MAX. 254 NM) CAUSED AN INCREASE IN THE SURFACE AREA OF THE LIPOVITELLIN MONOLAYER ON SOL WITH A HIGH IONIC STRENGTH. THE PERMEABILITY OF THE MONOLAYER ALSO INCREASED AND MAX. PERMEABILITY WAS REACHED AFTER A DOSE OF 1.2 TIMES 10 PRIME7 ERG-CM PRIME2. THE UV RADIATION DECREASED THE HYDROPHOBIC BONDS BETWEEN THE PROTEIN AND THE LIPID COMPONENTS. THIS WAS CONFIRMED BY ELECTRON MICROSCOPY WITH OSD SUB4. FACILITY: INST. BICKHIM. TM. BAKHA, MOSCOW, USSR.

Acc. Nr.

AP0055699 - Abstracting Service
CHEMICAL ABST. 6-79Ref. Code
4R0480

111860m Synthesis of poly(vinylene glycol) ethers and co-polymers of vinylene glycol and vinyl alcohol. Volkova, M. V.; Klimova, O. M. (Leningrad. Tekhnol. Inst. im. Lensovetza, Leningrad, USSR). *Vysokomol. Soedin.*, Ser. B 1970, 12(1), 62-4

(Russ.). Poly(vinyl alc.), vinyl alc.-vinylene glycol copolymers (I), (contg. 15 and 22% glycol groups), vinylene carbonate-vinyl acetate copolymers, poly(vinylene glycol) (II), and poly(vinylene carbonate) were refluxed with EtBr, iso-PrBr, BuHBr, CH₂:CH-CH₂Br, and PhCH₂Cl in dry pyridine (III) or in III + 20% aq. NaOH. The degree of etherification depended on the order in which the reagents were added. Introduction of an eq. NaOH soln. (i.e., increased polarity) led to a decrease in the activation energy (E_a) and an increase in the reaction const. k_2 . E_a reached a max. whenever the formation of an ether involved increased steric hindrance; in the etherification of I, however, the effects of steric hindrance were less significant. Etherification of II under homogeneous conditions indicated that the reactivity of α -OH groups was essentially similar to that of β -OH groups.

CKJR

Y1

REEL/FRAME
19841008

CG7

USSR

ZAYDES, V. M., VOLKOVA, M. YA., BUKRINSKAYA, A. G., and ZHDANOV, V. M.,
Academician, Academy of Medical Sciences USSR, Institute of Virology, Academy
of Medical Sciences USSR, Moscow

"Sedimentation and Density Characteristics of Some Cellular and Virus-Specific
Ribonucleoproteins in Cytoplasmatic Extracts From Chick Embryo Cells Infected
With Newcastle Disease Virus"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 1, 1971, pp 219-221

Abstract: Fractionation of a cytoplasmatic extract from chick embryo cells containing labeled stable cellular RNA (³H tagged) and virus-induced RNA (³⁵Cl tagged) showed that both labeled compounds sedimented at the same rate (~45 S) and in the same density region (~1.46 g/ml). This suggests that the cellular and virus-specific ribonucleoproteins are physically related. Such an assumption is consistent with the results of N. V. Kaverin's functional analysis of the viral component of the hypothetical complex, which indicate that virus-induced RNA can be transported from the 45 S structures to polyribosomes. This complex is regarded as the initiator of viral protein synthesis.

1/1

USSR

UDC 576.858.5.083.35:616-006.6.018]:675.8.095.383.098.
396.332

ZAYDES, V. M., VOLKOVA, M. Ya., and BUKRINSKAYA, A. G., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Virus-Induced RNA in Polyribosomes of Ehrlich Ascites Carcinoma Cells Infected
With Sendai Virus"

Moscow, Voprosy Virusologii, № 5, Sep/Oct 70, pp 518-524

Abstract: After inoculation of Ehrlich ascites carcinoma cells with Sendai virus, virus-induced RNA was detected in pre-ribosome and post-ribosome zones of the sucrose gradient. The structures in the pre-ribosome zone was identified as virus-specific polyribosomes. Analysis in CsCl density gradient indicated that the polyribosomes occupy the rho = 1.51 g/cm³ position. Viral polyribosomes were sensitive to an Mg²⁺ deficiency in solution. When treated with a buffer solution containing a low Mg²⁺ concentration, polyribosome sedimented at a low rate during analysis in the sucrose density gradient. The virus-induced polyribosome RNA consisted primarily of 18S RNA and an RNA which sedimented in the heterogeneous zone at a greater rate. The 18S RNA was present in polyribosomes with a low sedimentation constant (110-170 S).

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- 14 -

USSR

UDC 576.858

ZAYDES, V. M., ZASLAVSKIY, V. G., KAVERIN, N. V., BUKRINSKAYA, A. G., and VOLKOVA, M. Ya. Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Virus-Specific Informosome-Like Component in Cell Extracts Infected With Newcastle Disease Virus"

Moscow, Molekulyarnaya Biologiya, Vol 4, No 4, Jul/Aug 70, pp 607-611

Abstract: Slowly sedimenting structures in cytoplasmatic extracts of a culture of chick embryo cells infected with Newcastle disease virus were detected and characterized. These structures (an informosome-like component) contain a virus-induced RNA with a sedimentation coefficient of 45S; they separate in the density gradient of cesium chloride in the rho=1.43g/ml zone. The RNA of the informosome-like component is complementary to the RNA of the mature virus whose sedimentation coefficient is 18S. The data obtained are discussed in relation to the possible role of the informosome-like component in paramyxovirus reproduction.

1/1

Miscellaneous

USSR

UDC 51:801

YEVSEYEV, A. I., OSTAPKO, V. T., and VOLKOVA N. D.

"Study of the Informational Capability of Sound Groups in the Russian Language"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972,
vyp. 82, pp 124-133 (from RZh-Matematika, No 5, May 72, Abstract No 5V591)

Translation: It is suggested that the phoneme alphabet of the Russian language be divided into seven sound groups according to the mode of phoneme formation and that in order to recognize a limited set of words an alphabet of sound groups be introduced in place of the phoneme alphabet.

The authors consider the possibility of unambiguous transition (decoding) from writing in an alphabet of seven sound groups to ordinary word-writing, given sufficiently large dictionary size, and quantitative evaluations are offered of the informational capability of the sound groups.

1/1

USSR

UDC: 51:801

YEVSEYEV, A. I., OSTAPKO, V. T., VOIKOVA, N. D.

"A study of the Information Content of Groups of Sounds in the Russian Language"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 82, pp 124-133 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V591)

Translation: It is proposed that the alphabet of phonemes of the Russian language be broken down into seven groups of sounds in accordance with the means of producing the phonemes, and that the sound-group alphabet be used in place of the phoneme alphabet for recognition of a limited set of words.

The authors consider the possibility of a one-to-one transition (decoding) from a recording in the alphabet of seven groups of sounds to the conventional recording of words for a fairly extensive vocabulary and present quantitative estimates of the information content of the groups of sounds.

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UNCLASSIFIED PROCESSING DATE--04DEC70

FILE--REMOVAL OF UNPOLYMERIZED MONOMERS FROM LATEXES -U-

AUTHOR--{05}-KIL, T.A., ZADURSKIY, V.M., LUKYANOVA, I.P., SHVETSOV, N.V., VOLKOVA, N.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,382

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--26JAN70

SUBJECT AREAS--MATERIALS

OPIC TAGS--MONOMER, LATEX, CHEMICAL PATENT, DISTILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

ROXY REEL/FRAME--3007/0836

STEP NO--UR/0482/70/000/000/0000/0000

IRC ACCESSION NO--AA0136270

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136270

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNPOLYMD. MONOMERS ARE REMOVED
FROM LATEXES BY DISTG. THEM WITH STEAM MIXED WITH N.

1/2 - 012

UNCLASSIFIED

✓ PROCESSING DATE--13NOV70

TITLE--REMOVAL OF UNPOLYMERIZED MONOMERS FROM LATEXES -U-

AUTHOR--(05)-KIL, T.A., ZADORSKIY, V.M., LUKYANOVA, I.P., VOLKOVA, N.I.,
KENZHETAYEVA, V.D.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265, 430

REFERENCE--OTKRYTIYA, IZOBRET., PRIM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--MONOMER, LATEX, DISTILLATION, FREON, CHEMICAL PATENT, CHEMICAL
SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1424

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128823

UNCLASSIFIED

2/2 012 UNCLASSIFIED CIRC ACCESSION NG--AA0128823
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNPOLYMO. MONOMERS ARE REMOVED
FROM LATEXES BY DISTG. THEM WITH H₂S₂O VAPOR MIXED WITH FREON 12.

PROCESSING DATE--13NOV70

UNCLASSIFIED

1/2 013

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--REMOVAL OF UNPOLYMERIZED MONOMERS FROM LATEXES -U-

AUTHOR--(05)-KIL, T.A., ZADORSKIY, V.H., LUKYANOVA, I.P., VOLKOVA, N.I.,
KENZHEFAYEVA, V.D.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,431

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--MATERIALS, MECH., INO., CIVIL AND MARINE ENGR

TOPIC TAGS--MONOMER, LATEX, CHEMICAL PATENT, BUTADIENE, INDUSTRIAL
BYPRODUCT, UNSATURATED HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1425

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128824

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AA0128824
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNPOLYMO. MONOMERS ARE REMOVED
FROM LATEXES BY DISTG. THEM WITH STEAM MIXED WITH THE ETHER PART OF A
PIPERYLENE FRACTION (BY PRODUCT OF 1,3,BUTADIENE PRODUCTION AS DESCRIBED
BY S. V. LEBOEUV).

UNCLASSIFIED

1/2 026

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--EFFECT OF THE STRUCTURE OF THE COORDINATION SPHERE OF THE SALT ON
THE KINETICS OF THE FORMATION OF MERCURY,II,PHEOPHYTIN COMPLEXES -U-

AUTHOR--(02)-VCLKOVA, N.I., BEREZIN, B.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. AECRG. KHIM. 1970, 15(4), 961-5

DATE PUBLISHED----70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—CHEMICAL BONDING, CHEMICAL REACTION KINETICS, MERCURY
COMPOUND, CHLORIDE, IODIDE, ORGANIC SOLVENT, METAL COMPLEX COMPOUND,
ENTROPY, ACTIVATION ENERGY

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/2035

STEP NO--UR/0078/70/015/004/0961/0965

CIRC ACCESSION NO--AP0132292

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--20 NOV 70

CIRC ACCESSION NO--APO132292

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE E SUBA, DELTA S PRIME POSITIVE
POSITIVE, AND RATE CONSTS. OF REACTIONS OF (HGI SUB4) PRIME2 NEGATIVE,
HGI SUB2, (HGCL SUB4) PRIME2 NEGATIVE, AND HGCL SUB2 WITH PHEOPHYTINE IN
MEOH OR ETOH SOLNS. ARE GIVEN. IN MEOH, HGI SUB4 PRIME2 NEGATIVE IS
MORE SOLVATED THAN IS HGI SUB2 AND AS A RESULT DELTAS PRIME POSITIVE
POSITIVE OF ITS REACTION IS POS. AND THAT OF HGI SUB2 IS NEG. THE
SOLVATION EFFECT OF THESE 2 COMPLEXES IN ETOH WAS THE OPPOSITE FROM THAT
IN MECH. HGX SUB2 (X EQUALS I OR Cl) REACTED MUCH FASTER WITH
PHEOPHYTIN IN ETOH THAN IN MEOH. WITH MEOH WAS A BETTER SOLVENT FOR HGX
SUB4 PRIME2 NEGATIVE REACTIONS. FACILITY: IVANOV.
KHIM.-TEKHNCL. INST., IVANOVO, USSR.

UNCLASSIFIED

Hydrobiology

USSR

UDC: 612.315.1+612.019

BRGUN, G. R., IL'INSKIY, O. B., and VOLKOVA, N. K., Laboratory of General Reception Physiology (Headed by O. B. Il'inskij), I. P. Pavlov Institute of Physiology, USSR Academy of Sciences, Leningrad.

"Study of Certain Properties of Electroreceptor Structures of the Lateral Line of Black Sea Skates"

Leningrad, Fiziologicheskiy zhurnal SSSR im. I. M. Sechenova, No 10, vol 58, 1972, pp 1499-1505

Abstract: This article is written as the consequence of recent interest in sensory formations of lateral line systems of certain fish for perceiving electrical stimuli. These formations relate particularly to the receptor apparatus of the Lorenzini ampullae in some cartilagenous fish. The experiments in this investigation were performed on Black Sea skates, which are very convenient for studying the ampullae, and had the purpose of casting more light on the divergent opinions in the literature regarding the function of the ampullae apparatus, and clarifying the connection between the sensitivity of the animal and the ampullae. It was found that the skates exhibited high sensitivity to electrical stimuli. Oscillograms of these reactions are shown together with diagrams giving the location of the ampullae in the specimens.
1/2

USSR

BROUN, G. R., et al., Fiziologicheskiy zhurnal SSSR im. I. M. Sechenova, No 10,
Vol 58, 1972, pp 1499-1505

The sensitivity of the latter to magnetic fields was also tested, and it was found that the Lorenzini ampullae played an important part in this type of receptivity as well. The authors express their gratitude to the Karadag Division of the Southern Seas Institute of Biology for providing the base for this work.

2/2

- 20 -

USSR

UDC 669.71.053.4.067

VOLKOVA, N. S., ARAKELYAN, O. I.

"Interaction of Magnesium Oxide with Aluminate Solution"

Tr. Vses. n.-i. i proyektn. in-ta alumin., magn. i elektrodn. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute
of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 157-160 (from
RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G149)

Translation: MgO obtained by annealing the basic Mg carbonate at 500, 700, and 900° for 2 hours in the amount of 5 grams/liter is used to remove Si from solutions. The experimental conditions were the following: temperature 98°, duration 26-78 hours. For purposes of identification of the phase composition of the solid phases, various experiments were performed with respect to interaction of MgO with water, a NaOH solution with a concentration of 81 grams/liter of Na₂O, and aluminate-alkaline solutions containing 82-90 grams/liter of Al₂O₃ with a causticity of 1.5-1.7. The chemical composition of the phases obtained demonstrated that during interaction with water and NaOH, Mg(OH)₂ is formed, and during interaction with aluminate-alkaline solution,

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USSR

VOLKOVA, N. S., et al., Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektron. prom-sti, 1970, No 70, pp 157-160

a new phase with a stoichiometric composition $4\text{MgO}\cdot\text{Al}_2\text{O}_3\cdot 11\text{H}_2\text{O}$. The results of crystal-optical studies of the precipitates demonstrated that $\text{Mg}(\text{OH})_2$ is represented by cryptocrystalline aggregates and narrow-prismatic grains with isotropic aggregates with an index of refraction of 1.560. The new phase is represented by small-grain of the compound $4\text{MgO}\cdot\text{Al}_2\text{O}_3\cdot 11\text{H}_2\text{O}$ is characterized by the strongest lines 7.68, 3.78, and 2.56. There are 2 tables.

2/2

- 82 -

Magnesium

USSR

UDC 669.71.053.4.067

VOLKOVA, N. S., MAZEL', V. A., KOZLOVA, V. P., PROKHOROV, S. T.

"Effect of the Specific Surface of Magnesium Oxide on the Kinetics of Desiliconization of Aluminate Solutions"

Tr. Vses. n.-i. i proyektn. in-ta alumin., magn. i elektrodn. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute
of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 161-171 (from
RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G148)

Translation: The specific surface of MgO is lowered with an increase in temperature from 500 to 1,100° and with an annealing time from 1 to 4 hours. MgO obtained at 500° for 2 hours has the highest specific surface and quenching rate. The index of light refraction increases from 1.682 to 1.728 with an increase in the annealing temperature from 500 to 1,100° and during a time period from 1 to 6 hours. The nature of the rings on the electron diffraction patterns and electron microscope pictures of the obtained MgO samples indicate consolidation of the fine particles as the annealing temperature of the basic Mg carbonate increases. The desiliconizing capacity of MgO depends on its specific surface. MgO has a higher desiliconizing capacity than CaO. As the CaO content in the additive is increased (with 1/2

USSR

VOLKOVA, N. S., et al., Tr. Vses. n.-i. i prcyektn. in-ta alyumin., magn. i elektrodn. prom-sti, 1970, No 70, pp 161-171

a total amount of mixture of 5 g/liter), the degree of desiliconization drops. In the presence of carbonate alkali (10 gram/liter), the desiliconizing capacity of MgO drops. There are 8 illustrations, 2 tables and a 7-entry bibliography.

2/2

- 33 -

USSR

UDC 541.128.1 + 547.45

MUSHKETIK, L. S., and VOLKOVA, N. V., Institute of Organic Chemistry, Academy of Sciences UkrSSR

"Mechanism of the Action of Ethylenediamine in the Iodination of Glycol Aldehyde Phosphoric Acid Ester"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 19, No 9, Sep 73, pp 962-963

Abstract: The kinetics of the iodination of glycol aldehyde phosphoric acid ester in the presence of ethylenediamine were investigated. It was established that substitution with I or one of the H atoms in the ester was accompanied by splitting off of the phosphate group. Formation of the active enamine $\text{H}_2\text{O}_3\text{PO}-\text{HC}=\text{CH}-\text{NHCH}_2\text{CH}_2\text{NH}_2$ can be assumed, which undergoes iodination followed by hydrolysis with the formation of glyoxal. Glyoxal could not be isolated from the reaction mixture; it apparently underwent further transformations.

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- 46 -

USSR

UDC 547.26.418

SEMENYUK, I. I., VOLKOVA, N. V., and YASNIKOV, A. A., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Products of Acetol Phosphorylation by Phosphorus Oxychloride in Quinoline"

Kiev, Ukrainskiy Kimicheskiy Zhurnal, Vol XXXVII, No 5, 1971, pp 451-453

Abstract: The experimental procedure and results of acetol phosphorylation by phosphorus oxychloride in quinoline are described. The properties of the pyrophosphates of the dimer form of acetol are described, and the phosphorylation products are determined to be 2,5-dimethyl-2,5-dioxo-dioxane-1,4 mono and dipyrophosphates and acetolphosphate. It was discovered that the phosphorylated products decompose with splitting of the inorganic pyrophosphate when held with sulfoacid cation-exchange or ion-exchange resins. The inorganic pyrophosphate formed is identified by the paper chromatography method. The absence of a carbonyl group in the compound and the formation of the hydrazine of the corresponding methylglyoxal osazones leads to the identification of the product.

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- 19 -

1/2 039 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--STRUCTURAL FEATURES OF THE DESTRUCTION OF ALKALI METAL HALIDE
CRYSTALS BY LASER RADIATION -U-
AUTHOR--VOLKOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2), 616-18

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--ALKALI METAL HALIDE, CRYSTAL, LASER RADIATION, HELIUM NEON
LASER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1286 STEP NO--UR/0181/70/012/002/0616/0618

CIRC ACCESSION NO--AP0116748

UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0116748

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OPTICAL DEFFECTIVENESS OF THE SPECIMENS WAS STUDIED IN THE LIGHT OF A HE-NE LASER. IN MOST OF THE SIZE, WHICH FORM FOGGY AREAS IN THE LIGHT BEAM. THE D₀ OF THE FOGGY AREAS D IS DIFFERENT IN DIFFERENT SPECIMENS. NUMERICAL CHARACTERISTICS OF WAS FOUND BETWEEN THE THRESHOLD OF DESTRUCTION (E SUBL) AV. D₀ OF THE CENTERS OF DESTRUCTION N, AND D₀. THIS INDICATES A PARTICIPATION OF CRYSTALS. NaCl CRYSTALS SCATTER LIGHT THE LEAST. THREE TYPES OF STRUCTURAL IMPERFECTIONS DET. THE OPTICAL STRENGTH: (1) LARGE (GREATER THAN 1 MU) INCLUSIONS, (2) SMALL SCATTERING CENTERS, AND (3) STRUCTURAL INHOMOGENEITIES NOT REVEALED BY OPTICAL METHODS.

FACILITY: FIZ.

TEKH. INST. IM. IOFFE, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC A539.1.073.074

SAN'KO, L. A., TAKIBAYEV, ZH. S., BOOS, E. G., VOLKOVA, O. I., MOSIYENKO
A. M., ZAYTSEV, K. G., TEMIRALIYEV, T. T., and KHOLOMETS'KAYA, A. V.,
Institute of Nuclear Physics, Kazakh SSR Academy of Sciences, Alma-Ata

"Identification of Secondary Particles From the Ionization Losses in a
Hydrogen Bubble Chamber"

Pribory i Tekh Eksper, No 4, 1971, pp 67-69

Abstract: The authors give the results of identifying secondary charged particles forming in the interactions of protons at an impulse of 10 GeV/sec in an 81-cm hydrogen bubble chamber. They show that by using the method of average length of discontinuities they can determine the nature of 30% of all positive particles in a certain range. Graphs are used to illustrate the authors' results. Figure 1 shows the relative error in density as a function of track length. Figure 2 shows the ionization curves computed for various types of particles. Figure 3 shows the distribution of measured points relative to the ionization curves for positive and negative particles. Analysis of the authors' results shows that the method described herein allows identification of 90% of all the particles measured. The article contains 3 figures and 4 bibliographic entries.

1/1

USSR

UDC 591.32:531.5

SIMAKOV, Yu. G., AGAFONOV, V. A., VOLKOVA, O. V., ROMANOVA, Ye. A., and SHITOV, G. D., Chair of Histology and Embryology, Pediatric Faculty, Second Moscow State Medical Institute imeni N. I. Pirogov, Moscow

"Pre-Implantation Development of Mouse Embryos Under Conditions of Changed Gravitation"

Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Vol 64, No 3, Mar 73,
pp 5-12

Abstract: Female mice were placed 11-13 hrs after mating into a centrifuge in which an additional gravitational force of 1 G was exerted on them in the dorso-ventral direction. Under the conditions of increased gravitation, a delayed appearance of fetuses transferred from the oviducts into the horns of the uterus was not observed. Morphological changes in the development of the fetuses began to be apparent on the 4th day of pregnancy; they comprised retarded development and disturbances in cleavage. These changes coincided with the beginning of a drop in the content of bound lipids and a rise in the content of PAS-positive substances in the endometrium. At the time of implantation, after 4 days of the action of gravitational overload, the majority of fetuses were unable to penetrate into the muscosa of the uterus, because the blastocysts had not lost their zone pellucida or had undergone 1/2

USSR

SIMAKOV, Yu. G., et al., Arkhiv Anatomii, Gistologii i Embriologii, Vol 64,
No 3, Mar 73, pp 5-12

abnormal cleavage with the lysis of some blastomeres. There were no signs of implantation on the 6th day. On the 12-13th day of the action of the additional gravitational force, the mice were no longer pregnant, because their uterus was thinned out as in mice in a state of diestrus. Under the effect of the gravitational overload, gestation was interrupted already in the pre-implantation stage.

2/2

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USSR

UDC 542.91:547.1'118:541.69

KRESTKIN, A. P., VOLKOVA, R. I., GODOVIKOV, N. N., KABACHNIK, M. I.,
KARDANOV, N. A., Institute of Organoelemental Compounds of the Soviet
Academy of Sciences; Institute of Evolutionary Physiology and Biochemistry
imeni I. M. Sechenov of the Soviet Academy of Sciences

"Interaction of S-(β -Alkylmercaptoethyl)diphenylthiophosphinates,
O-(β -Alkylmercaptoethyl)diphenylphosphinates and Their Iodomethylates
With Butyrylcholinesterase"

Moscow, Izv. An SSSR: Ser. Khimicheskaya, No 3, Mar 73, pp 622-627

Abstract: The paper gives the results of research on the kinetics of inhibition of butyrylcholinesterase by S- β -alkylmercaptoethyl diphenylthiophosphinates, O- β -alkylmercaptoethyl diphenylphosphinates and their methiodides. It is found that these substances have a combination type of inhibiting action which increases with the length of the alkyl radical bound to the sulfide or sulfonium sulfur atom.

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- 21 -

USSR

UDC 542.91:541.69:547.1'118:547.9

VOLKOVA, R. I., KARDANOV, N. A., BRESTKIN, A. P., GODOVI'KOV, N. N., and
KABACHNIK, M. I., Institute of Organoelemental Compounds, Academy of Sciences
USSR and Institute of Evolutionary Physiology and Biochemistry imeni I. M.
Sechenova, Academy of Sciences USSR

"Reaction of S-(ω -Ethylmercaptoalkyl)diphenylthiophosphinates, O- $(\omega$ -Ethyl-
mercaptoalkyl)diphenylphosphinates and Their Methyl Iodates With Cholinesterase
From the Serum of Horse Blood"

Moscow, Seriya Khimicheskaya, 9, 1973, pp 2114-2119

Abstract: The kinetic constants were determined for the combined inhibition of butyrylcholinesterase by the diphenylthiophosphinates ($C_6H_5_2P(O)S(CH_2)_nSC_2H_5$) and their methyl iodates ($(C_6H_5)_2P(O)S(CH_2)_nS^+(CH_3)C_2H_5 \cdot I^-$ for $n = 2$ to 6. The constant for the reversible inhibition by the analogous oxygen ethers was also determined. The ability of the diphenylthiophosphinates, diphenylphosphinates and their methyl iodates to reverse the sorption on the active sites of the increases with increasing number of (CH_2) units. The rate constant for the nonreversible inhibition does not change significantly as n increases for the sulfide thioethers but in the sulfonium thicethers, it decreases with a 1/1 decrease in the rate constant for their base hydrolyses.

- 30 -

Organophosphorus Compounds

USSR

UDC: 577.153

BRESTKIN, A. P., BRIK, I. L., VOLKOVA, R. I., MAYZEL', YE. B. and ROZENGARD, YE. V., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad

"Effects of the Ionic Strength and Organic Solvents on the Interaction of Cholinesterases with Substrates and Organophosphorus Inhibitors"

Moscow, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

Abstract: The effect of various concentrations of KC1 on the reactivity of acetylcholinesterase (A) from bovine erythrocytes and butyrylcholinesterase (B) from equine blood serum with respect to two substrates, acetylcholine and phenyl acetate, and two organophosphorus inhibitors, $C_2H_5(CH_3)P(O)SC_2H_4SC_2H_5$ (Gd-7) and $C_2H_5O(CH_3)P(O)SC_2H_4S^+(CH_3)C_2H_5\cdot CH_3^-$ (Gd-42), was studied. With increasing concentrations of KC1, the reactivity of A and B decreased towards the cationic substrate acetylcholine and Gd-42 because of a decrease in the Coulomb interaction with the anionic center of the enzymes, whereas it increased towards the non-cationic substrate PhOAc and Gd-7 because of an increase in hydrophobic interaction with the hydrophobic sections of the active surface of the enzymes. In the acidic

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USSR

BRESTKIN, A. P., et al, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

pH range, in which ionization of the anionic center was depressed, the inhibiting effect of KC1 on the rate of the reaction of A and B with Gd-42 was less pronounced. Changes in the effect of the ionic strength at pH 5.5-8.2 on the inhibiting action of Gd-42 towards A and B made it possible to estimate the pK of the anionic center of A and B at 6.1 and 6.8, respectively. The effects of C_2H_5OH , C_3H_7OH , iso- C_3H_7OH , C_4H_9OH , iso- C_4H_9OH , sec- C_4H_9OH , and tert- C_4H_9OH on the anticholinesterase activity of organophosphorus inhibitors $C_2H_5O(CH_3)P(O)S(CH_2)_nO(CH_3)_3$ (series LG) and $C_2H_{2n+1}O(CH_3)P(O)SC_4H_9$ (series GA) were studied in experiments with B. The alcohols reduced the anticholinesterase activity of the organophosphorus compounds by worsening their hydrophobic interaction with the non-polar sections of B and also by altering the structure of these sections. The hydrophobic section in the region of the esterase center of B was more resistant to the action of alcohols than that in the region of the anionic center. The maximum effect in reducing the activity in the series LG was produced by iso- C_4H_9OH , to which hydrophobic regions in the region of the anionic center are particularly sensitive, while the maximum

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USSR

BRESTKIN, A. P., et al, Biokhimiya, Vol 35, No 2, Mar-Apr 70, pp 382-393

effect in reducing activity in the series GA was exerted by tert-C₄H₉OH, which affects primarily the region of the esterase center.

3/3

USSR

UDC 669.21/23:669.231+669.715

LATYPOVA, I. M., VOLKOVA, R. M., and MATVEIEVA, M. P., Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, Moscow

"Oxidizability of Platinum and Beryllium Alloys"

Abstract: The purpose of this article is to fill, at least partially, the gap in information concerning the oxidation of platinum containing small additions of different elements. Such information is important because low-alloyed platinum is used in the manufacture of refractory materials. The paper describes research on the kinetics of oxidation and on the composition of platinum alloy oxide films with small additions of beryllium -- 0.02, 0.04, 0.06, 0.08, and 0.1% -- to the alloy. The original materials of which the alloy was made consisted of 99.96% technical platinum and 99.9% metallic beryllium. Melted in an arc furnace with a tungsten electrode on a copper, water-cooled sole in an atmosphere of purified helium, the alloys were cast in ingots weighing 60 grams. After repeated remelts, for the purpose of equalizing the composition, the castings were furnace cooled. They were then annealed at 1200° C for two hours, and rolled into sheets 1 mm thick. The specimens were cut into plates measuring 20 x 30 mm, and oxidized in air at 1300° C.

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USSR

LATYPOVA, I. M., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Col 6, No 5, 1970, pp 28-30

The electronographic method was used to measure the phase composition of the platinum alloys. Measurement results and results from the literature are compared. The experiments showed that in the oxidation of platinum containing 0.06, 0.08, or 0.1% Be, the surface formation consisted mainly of BeO.

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USSR

UDC 614.31:576.851.513

VOLKOVA, R. S., Chair of General Hygiene, Second Moscow Medical Institute imeni N. I. Pirogov

"Contamination of Various Foods and Environmental Objects with *Bacillus cereus* in Restaurants"

Moscow, Gigiiena i Sanitariya, No 2, 1971, pp 108-109

Abstract: The frequency of contamination of restaurant foods with *Bac. cereus* was found to vary with the type of food, the conditions under which it was stored, and the way it was cooked. The frequency and extent of contamination of meat products increased significantly from raw meat to the semifinished product, but cooking reduced the number of microorganisms. In the case of vegetables, washing and cooking decreased the percentage of contamination, but the extent of contamination remained unchanged because of subsequent contamination from environmental objects. Pastries and other baked goods were more contaminated than the original flour. Spices, black pepper in particular, were heavily contaminated. The air, dust, tap water, and washings from equipment were also contaminated. The spores of *Bacillus cereus* can tolerate high temperatures and they readily multiply in improperly stored semifinished products.

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USSR

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UDC 616.981.513-022.38-039:616.3-008.1

PIVOVAROV, Yu. P., SIDORENKO, G. I., TKACHENKO, A. V., GOL'DBERG, Ye. S.,
AKIMOV, A. M., VOLKOVA, R. S., and SHELAKOVA, V. V., Chair of General Hygiene,
Second Moscow Medical Institute imeni N. I. Pirogov

"Bacillus cereus as an Agent of Food Poisoning in Man"

Moscow, Voprosy Pitaniya, No 3, 1970, pp 25-25

Abstract: During an investigation of food poisonings treated in several clinics and hospitals in Moscow, Moscow Oblast, and Roven'kovskiy Rayon, Luganskaya Oblast (Ukraine) since 1967, it was found that two general outbreaks, four familial outbreaks, and 29 isolated cases involving a total of over 150 persons were caused by *Bacillus cereus*. The microorganism was isolated in large quantities from the intestinal contents, vomited material, and suspected food products (sausage, beet and potato soup, stewed cabbage, boiled meat, sardines, canned duck and beef). Most of the cases were reported in the summer and fall. The course was generally brief. After an incubation period of 10 to 16 hours, sometimes 4 to 6 hours, symptoms appeared - stomach pains, nausea, diarrhea. The symptoms subsided in 11 to 16 hours, less commonly in 24 to 48 hours. About 2/3 of the cases followed a more severe and longer (3 to 5 days) course.

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12 013 UNCLASSIFIED PROCESSING DATE--09OCT70
TLE--ACCURATE DETERMINATION OF THE DENSITY OF WEAK SOLUTIONS AT VARIOUS
TEMPERATURES -U-
THUR-(05)-TERESHKEVICH, M.O., GARUS, L.I., DLUGACH, R.YE., KUPRIK, A.V.,
VULKOVA, S.A.
COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970 43(1) 167-70

DATE PUBLISHED-- 70

OBJECT AREAS--PHYSICS

TOPIC TAGS--FLUID DENSITY MEASUREMENT, TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
MICROFILM REEL/FRAME--1993/0300

STEP NO--UR/0080/70/043/001/0167/0170

ACCESSION NO--AP0113230

UNCLASSIFIED

2/2 - 013

UNCLASSIFIED

PROCESSING DATE--09OCT70

RC ACCESSION NO--AP0113230
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A FLOTATION METHOD IS DESCRIBED
FOR RAPID DETN. OF D. WITH AN ACCURACY OF 10 NEGATIVE PRIMES G-CM
PRIMES. THE D. OF SEVERAL HOLLOW QUARTZ FLOATS OF 10-12 MM LENGTH AND
1-2 MM DIAM. WAS CALIGRATED BY DETN. OF THE TEMP. AT WHICH THEY WOULD
JUST FLOAT IN H SUB2 O. THE FLOATS WERE USED TO DET. THE D. OF AQ.
SOLNS. OF K SUB2 CR SUB2 O SUB7 IN THE CONCN. RANGE 0.1 MINUS 0.2 G-L.
AND TEMP. RANGE 10-35DEGREES. FACILITY: DNEPROPETROVSK. GOS.
UNIV., DNEPROPETROVSK, USSR.

UNCLASSIFIED

USSR

UDC 535.88

VOLKOVA, T. A.

"New Types of Translucent Screens for the Projection of Metering Systems"

Tr. Gos. optich. in-ta (Transactions of the National Optical Institute) 40,
No 171, 1972, p 22 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya
Tekhnika, No 9, 1972, Abstract No 9.32.133)

Translation: The screens described are made of milk glass and a Lawson coating. Both materials are resistant to tropical conditions and are not subject to aging. Light gauge sheets of milk glass MC13 (0.5 mm) possess directional diffusion light transmittance characteristic of translucent screens. Screens of milk glass, mark MC13, with a coefficient of light transmittance $\bar{\tau} = 55\text{-}60\%$ (factory data for a thickness of 2 mm) have an optical chemistry analogous to that of a waxy screen 0.5 mm thick, but possess a higher light transmittance (80%). During preparation the milk glass is glued to a foundation of optical glass. The Lawson film, chemically frosted on two sides, $20\text{-}50 \mu\text{m}$ thick, is close to a wax screen in its optical chemistry, but has a higher light transmittance, greater than 80%. In order to obtain the screens the film is inserted between two sheets of glass or fixed to one glass sheet electrostatically.

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1/2 018

TITLE--BUFFING AND POLISHING PASTE -U-

UNCLASSIFIED

PROCESSING DATE--04DEC70

AUTHOR--VOLKOVA, T.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 213,999

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ABRASIVE, SILICON CARBIDE, DIAMOND, PASTE, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1760

CIRC ACCESSION NO--AA0137000

STEP NO--UR/0482/70/000/000/0000/0000

UNCLASSIFIED

2/2 018

CIRC ACCESSION NO--AA0137000

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0-

DISPERSION OF 2-10 PERCENT DIAMOND POWDER AND 30-8 PERCENT GREEN SIC IN A
FATTY BASE.
FACILITY: UKRAINSKIY ORDENA TRUDOVOGO KRASNOGO
ZNAMENI NAUCHNO-ISSLEDOVATEL'SKIY INSTRUKTORSKO-TEKHNOLOGICHESKIY
INSTITUT SINTETICHESKIH SVERKHTVERDYKH MATERIALOV I INSTRUMENTA.

UNCLASSIFIED

1/2 025

TITLE--ABRASIVE PASTE CONTAINING DIAMOND, CUBING BORON NITRISE, AND
SILICON CARBIDE -U
AUTHOR--VOLKOVA, T.M.

COUNTRY OF INFO--USSR

SOURCE--GER. OFFEN. I, 807,317

DATE PUBLISHED--27MAY70

UNCLASSIFIED

PROCESSING DATE--20NOV70
CUBING BORON NITRISE, AND

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ABRASIVE, DIAMOND, BORON NITRISE, CUBIN CRYSTAL, SILICON
CARBIDE, CHEMICAL PATENT, METAL GRINDING, RESEARCH FACILITY, HARD ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0739

CIRC ACCESSION NO--AA0126446

STEP NO--GY/0000/70/000/000/0000/0000

UNCLASSIFIED

2/2 025

CIRC ACCESSION NO—AA0126446

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ABRASIVE PASTES WITH AN EVEN
DISTRIBUTION OF THE GRINDING POWDERS WERE PREPD. BY MIXING FUSED OLEIC
ACID 15-30, STEARIC ACID 15, AND GREASE 10-30PERCENT WITH POND. DIAMOND
(SIMILAR TO 10 MU DIAM.) 2-10, CUBIC BN (14-20 MU) 2-10, AND SIC (71-4
MU) 3G-4CPERCENT.

FACILITY: UKRAINIAN SCIENTIFIC RESEARCH
INSTITUTE OF INSTRUMENTS AND SYNTHETIC EXTRAHARD MATERIALS.

UNCLASSIFIED

USSR

UDC: 620.17:669.295:620.186.1

MAL'TSEV, M. V., VOLKOVA, T. N., SKUDNOV, V. A., Gorky Polytechnic Institute
imeni A. A. Zhdanov
"Influence of Cooling Rate on Phase Composition and Mechanical Properties of
VT16 Alloy"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 49-52.

Abstract: The influence of cooling rate on phase composition and mechanical properties of VT16 titanium alloy was studied on cold-drawn bars 6.15 mm in diameter. After heating to 600-950° C and holding for two hours, the bars were cooled in water, in air, in a container in air and in a container with the furnace. In all cases, the specimens were heated under a vacuum of 10^{-4} mm hg. The cooling rate in air averaged 10° per minute, with the furnace -- 3° per minute. It was found that increasing the heating temperature and cooling rate increases the structural instability of VT16, significantly influencing mechanical properties and phase composition. The minimum yield point of the alloy following hardening from various temperatures corresponds to the maximum content of beta phase. The beginning of the sharp decrease in yield point with increasing hardening temperature corresponds to the appearance of the alpha "phase" in the structure. The strain hardening during

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USSR

Mal'tsev, M. V., Volkova, T. N., Skudnov, V. A., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 49-52.

extension of specimens subjected to hardening and annealing with heating to from 750 to 900° C is the same. For annealed specimens, it is somewhat less with low degrees of deformation, for hardened specimens -- at higher degrees of deformation. The ductility of hardened specimens is slightly higher than that of annealed specimens in this case.

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1/2 008

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--PHENOL PURIFICATION -U-

AUTHOR--(05)-MENYAYLO, A.T., GUROVICH, R.E., VOLKOVA, T.S., YAKOVLEVA,
A.K., POKROVSKAYA, I.YE.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,104

REFERENCE--OTKRYTIYA, IZBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHENOL, CHEMICAL PATENT, ION EXCHANGE RESIN, CHEMICAL
PURIFICATION(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1758

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136998

UNCLASSIFIED

Z/2 008

CIRC ACCESSION NO--AA0136998

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHENOL PURIFICATION IS CARRIED OUT
OVER ION EXCHANGE RESIN KU2, AT 90-100DEGREES, PH 6-7, AND VOL. RATE
1.5-2.5 HR PRIME NEGATIVE1.

UNCLASSIFIED

USSR

SAAD EL'DIN, M., DUBININA, YE. M., SPIVAK, G. V., VOLKOVA, T. V.

"Using Polymer Films for Studying Microfields With a Transmission-Type Electron Microscope"

Moscow, Izvestiya Akademii Nauk, Seriya Fizicheskaya, Vol 34,
No 7, 1970, pp 1567-1569

Abstract: This paper investigates films formed on the surface of specimens under electron bombardment of condensing monomer vapor. These polymer films are used for investigating the structure of surface microfields at superoptical magnification. A curve is given showing the thicknesses of the films investigated as a function of the power of the electron beam causing the polymerization. The films were obtained both in a high vacuum and under glow discharge conditions, and the objects of the research were p-n silicon diodes. The electron beam was generated by a three-electrode gun, and the electron energy was kept at the level of tens of electron volts to increase their sensitivity to the microfields and reduce the number of secondary electrons with high velocity dispersions. Images of the cobalt domain structure were also obtained. This and other photomicrographs illustrate 1/1 the article.

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Biochemistry

USSR

UDC 632.95

GOLUBEV, T. I., VOLKOVA, V. A.

"Investigation of the Biological Path of Conversion of Chlorophos to DDVP"

Byul. VNII zashchity rast. (Bulletin of the All-Union Scientific Research Institute of Plant Protection), 1970, No 15, pp 55-60 (from RZh-Khimiya, No 2, 25 Jan 71, Abstract No 2N526)

Translation: In order to study the metabolism of chlorophos in the tissues of mice, shield bugs and wheat seedlings, a method is developed for determining concentrations of chlorophos and DDVP in biological media. The procedure consists of separation of these products by thin-film chromatography on silica gel and colorimetric determination of the activity of acetylcholine when it is inhibited by chlorophos and DDVP. In this connection, DDVP is not observed in experiments *in vivo* and *in vitro*, which indicates that chlorophos is metabolized in the tissues of plants, insects and animals without conversion to DDVP.

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1/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--INTERACTION BETWEEN TWO SYSTEMS OF SITUATIONAL CONDITIONED REFLEXES
-U-

AUTHOR--(02)-KHANANASHVILI, M.M., VOLKOVA, V.D.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVOY DEYATEL'NOSTI, 1970, VOL 20, NR 3, PP
478-484

DATE PUBLISHED-----70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, BIOLOGICAL AND MEDICAL
SCIENCES

TOPIC TAGS--CONDITIONED REFLEX, DIGESTIVE SYSTEM, EXPERIMENTAL PSYCHOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1928

STEP NO--UR/0247/70/020/003/0478/0494

CIRC ACCESSION NO--AP0120575

UNCLASSIFIED

2/2 018

CIRC ACCESSION NO--AP0120575

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN AN EXPERIMENT ON FOUR DOGS, ONE FIRST ELABORATED (WITH RUNNING TO ONE FEEDING TRough), AND THEN, IN TWO OR THREE YEARS, ANOTHER ONE (RUNNING TO ANOTHER FEEDING TRough). AFTER STABILIZATION OF THE REFLEXES OF THE SECOND SYSTEM, STIMULI OF BOTH SUCCESSIVELY ELABORATED SYSTEMS WERE PRESENTED. IT APPEARED THAT IN THE COURSE OF INTERACTION BETWEEN THE TWO SYSTEMS, EACH OF THEM ACQUIRES NEW PROPERTIES, AND AS A RESULT OF THEIR UNION, A NEW SINGLE FUNCTIONAL ORGANIZATION OF NERVOUS PROCESSES IS FORMED. THE PAPER DISCUSSED THE BEHAVIOR OF ANIMALS IN THE INTERVALS BETWEEN THE ACTION OF CONDITIONED STIMULI, AND, NOTABLY, THE MECHANISMS OF THE FORMATION OF POSTURE AND ITS ROLE IN CONDITIONED ACTIVITY.

FACILITY: PAVLOV PHYSIOLOGY DEPARTMENT, INSTITUTE OF EXPERIMENTAL MEDICINE, USSR ACADEMY OF MEDICAL SCIENCES, LENINGRAD.

UNCLASSIFIED

Acc. Nr:

AP0037247

Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16,
Nr 1, pp 101-103

TWO-DIMENSIONAL CHROMATOGRAPHY OF CORTICOSTEROIDS MIXTURE IN
THIN LAYER OF KSK SILICA-GEL

Volkova, V. I.; Gaziyev, G. A.; Popova, L. A.

The separation of artificial mixture of biologically important corticosteroids: cortisole, cortisone, their tetrahydroderivatives, corticosterone, aldosterone, 11-dehydrocorticosterone, substance S (according to Reichstein), its tetrahydroderivative, and deoxycorticosterone in thin layer of KSK silica-gel by means of two-dimensional chromatography in systems which do not induce changes in the molecule of corticosteroid. The corticosteroid content of human urine was studied.

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REEL/FRAME
19730174

USSR

VOLKOVA, V. N., DOSHCHANNIKOVA, S. L.

"Use of Computers in Synthesis of Automatic Information Systems"

Problemy Konkretn. Sistemn. Issled. [Problems of Specific Systems Studies
-- Collection of Works], Moscow, 1971, pp 169-178, (Translated from
Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V731).

NO ABSTRACT.

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USSR

UDC 632.4:582.285.22:633.11(471.4)

LEKOMTSEVA, S. N., VOLKOVA, V. T., and CHAYKA, M. N., Chair of Lower Plants,
Moscow State University.

"Physiological Races of the Pathogen of Wheat Stem Rust in Some Regions Along
the Volga River"

Leningrad, Mikrobiya i Fitopatobiya, Vol 5, No 2, 1971, pp 161-166

Abstract: Data on the specialization of such pathogens as *Puccinia graminis* Pers. were collected, starting in 1964, to study the occurrence and development of wheat stem rust in the irrigated regions along the Volga. The territory can be divided into three groups, according to the frequency of occurrence of the disease. Conventional methods were used to determine physiological races of the pathogen. Eleven races of *P. graminis* f. sp. *tritici* were identified in the Saratov, Kuybyshev and Volgograd regions. Two to three races predominated. The race composition of wheat stem rust was more homogeneous in commercial fields than on plants of selection stations. It was found that all types of wheat studied were highly susceptible to races of fungus distributed over the regions along the Volga. More experiments in nature are necessary for future selection of wheat immune to this disease.

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1/2 008

TITLE--SPECIALIZED FORMS OF THE AGENT OF STEM RUST IN SOME VOLGA AREAS -U-
UNCLASSIFIED PROCESSING DATE--04DEC70
AUTHOR-(02)-LEKOMTSEVA, S.N., VOLKOVA, V.T.

COUNTRY OF INFO--USSR

SOURCE--BIOLOGICHESKIYE NAUKI, 1970, NR 1, PP 87-91
DATE PUBLISHED-----70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CEREAL STEM RUST, PLANT DISEASE, CROP IRRIGATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1740

CIRC ACCESSION NO--APO136981

STEP NO--UR/0325/70/000/001/0087/0091

UNCLASSIFIED

2/2 008

CIRC ACCESSION NO--APO136981 UNCLASSIFIED PROCESSING DATE--04DEC70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PUCCINIA GRAMINIS, THE AGENT OF
STEM RUST OF GRAIN, IS FOUND IN MANY SECTORS OF SARATOV, KUYBYSHEV AND
VOLGOGRAD REGIONS. RUST DEVELOPS ON RYE, BARLEY, OATS AND WHEAT, MOSTLY
ON IRRIGATED PLOTS. THREE SPECIALIZED FORMS OF THE FUNGUS ARE OBSERVED
IN THIS AREA, PUCCINIA GRAMINIS F. SP. SECALIS ON RYE, COUCH GRASS AND
BARLEY, PUCCINIA GRAMINIS F. SP. AVENAE ON OATS, AND PUCCINIA GRAMINIS
F. SP. TRITICI ON WHEAT AND OCCASIONALLY ON BARLEY. PUCCINIA GRAMINIS F.
UREDOSPORES. DIMENSIONS VARY DEPENDING ON THE FUNGUS POPULATION.
BARBERRY IS THE INTERMEDIATE HOST IN ALL OF THESE AREAS.
FACILITY: KAFEDRA NIZSHIKH RASTENIY, MOSKOVSKOGO GOSUDARSTVENNOGO
UNIVERSITETA IMENI M. V. LOMONOSOVA.

UNCLASSIFIED

USSR

UDC 537.228.4

VOLKOVA, Ye. A., ZAMKOV, V. A., NALBANDOV, L. V.

"Precision Measurements of the Absolute Value of Kerr Constants"

Leningrad, Optika i Spektroskopiya, No. 3, Mar 71, pp 556-561

Abstract: A device is described for the exact measurement of Kerr constants by an absolute method. It is pointed out that the double refraction of light in a substance placed in an electric field (the Kerr effect) is being more widely applied in science and technology and in investigating structures of complex organic compounds, developing modulators and Q-regulators for laser resonators, and for developing devices for the precision measurement of high and ultrahigh voltages. The development of these fields required precise methods for measuring electric double refraction and determining the electro-optical parameters of substances used in science and technology. A method for measuring phase distances proposed in 1968 by Keymakh and Kudryavtsev and the possibilities of applying it for absolute measurements of electric double refraction with an error of the order of 0.1% was studied at the All-Union Scientific Research

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USSR

VOLKOVA, Ye. A., et al, Optika i spektroskopiya, No. 3, Mar 71, pp 556-561

Institute of Metrology imeni D. I. Mendeleyev. The structure of a Kerr cell for making precision measurements of the constants is described, the optical system of the device is given, and the errors of the method are discussed. Measurements of Kerr constants for carbon bisulfide and chloroform are given and discussed and their variation with temperature in the interval 20-30°C for carbon bisulfide and 20-37°C for chloroform are also given. It is concluded that carbon bisulfide is still the most suitable standard material for relative measurements of the Kerr constant. However, it is very desireable to replace it with chloroform from the aspects of the electrooptics of the device and also from the aspect of flammability and toxicity; methods for refining and deionizing chloroform, however, are still poorly developed and the problem requires further research.

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UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--METHOD FOR OBTAINING FLUOROALKYLARSINES -U-

AUTHOR--(04)-RAVER, PH.R., ZALIKINA, L.M., SOROKIN, A.D., VOLKOVA, YE.V.

COUNTRY OF INFO--USSR

SOURCE--AUTHOR CERTIFICATE NR 262902

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, NO 7,
DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, ORGANIC ARSENIC COMPOUND, ALKYL
RADICAL, GAMMA RADIATION, CHEMICAL SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1772

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0137012

UNCLASSIFIED

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CIRC ACCESSION NO--AA0137012

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS ANNOUNCED FOR OBTAINING FLUORODALKYLARSINES BY TREATING FLUORODOLEFINS WITH ARSINE. THE PROCESS UTILIZES GAMMA RADIATION FOR SIMPLIFICATION.

UNCLASSIFIED

USSR

UDC: 547.242.07

RAVER, Kh. R., ZALIKINA, L. M., SOROKIN, A. D., VOLKOVA, YE. V.
"A Method of Producing Fluoroalkylarsines"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 7, 4 Feb 70, p 28, patent No 262902, filed 20 Jan 69

Translation: This Author's Certificate introduces a method of producing
fluoroalkylarsines by interacting hydrogen arsenide with fluoroolefins,
with the object of simplifying the process by carrying out the reaction
under γ -radiation.

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Acc. Nr.: AP0029502

Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena Truda i Professional'nyye Zabolevaniya,
1970, Nr 1, pp 31-34

WORK CONDITIONS AND THE STATE OF HEALTH OF WORKERS ENGAGED
IN HOT VULCANIZATION OF FOOTWEAR RUBBER

Z. A. Volkova, L.Ye. Milkov, K. A. Lopukhova, L. M. Malyar, Yu. L. Makarenko,
T. K. Shakhova

Summary

Hot vulcanization (cure) of rubber with divinyl-styrene raw rubber serving as a base is attended by the formation of a complex steam and gas mixture. In this process permanent constituents are styrene fumes, whose content in the respiration zone comprises 2—40 mg/m³. Into the atmosphere there are also released divinyl, butyricacrosol, formaldehyde, acrolein, carbon monoxide, sulfidioxide, ammonia, methyl alcohol, aromatic amines. Heat-producing microclimate is an adverse factor as well. The workers demonstrated functional shifts in the state of the nervous system, alterations in the upper respiratory tract, peripheral blood and teguments. Medico-prophylactic measures are proposed.

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REEL/FRAME

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19681103

USSR

UDC 612.822.1

VOLKOVA, Z. A., Central Scientific Research Laboratory and Chair of Biochemistry,
Pediatric Medical Institute, Leningrad

"Glycolysis in the Brain and Heart of Rats Subjected to the Combined Effect of
Hypoxia, Hypercapnia, and Cooling"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 1,
Jan 72, pp 122-124

Abstract: Rats were subjected to the combined effect of hypoxia, hypercapnia, and cooling by keeping them at 2-4°C in hermetically sealed jars until adynamia resulted. Upon a single exposure of the animals to the combined effect, the rate of glycolysis in the brain and myocardium increased. Upon a second exposure of the animals to the same effect, the rate of glycolysis, decreased vs. that observed after a single exposure. The decrease in the rate of glycolysis took place as a result of adaptation. Adaptation was indicated by the fact that the body temperature of the animals decreased less after the second than the first exposure. In the case of animals which did not become adapted, as shown by a greater decrease of the body temperature after the second vs. the first exposure, the rate of glycolysis increased after the second vs. the first exposure.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--ACTIVATING METHYLTHIO DERIVATIVES OF PURINE AND PYRIMIDINE IN
REACTIONS WITH WEAKLY NUCLEOPHILIC COMPOUNDS -U-

AUTHOR-(05)-GRACHEVA, YE.P., VOLKOVA, Z.S., GUNAR, V.I., ARUTYUNYAN, E.A.,
ZAVYALOV, S.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 420-3

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--URACIL, PURINE, PYRIMIDINE, HYDROGEN SULFIDE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0854

STEP NO--UR/0062/70/000/002/0420/0423

CIRC ACCESSION NO--AP0119758

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--APO119758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 6, METHYLTHIOPURINE (I) AND HGCL SUB2 IN ETOH GAVE A 1:1 COMPLEX, DEOCMPD. 215-18DEGREES, WHICH WITH H 77PERCENT 6, ANILINOPURINE, M. 284-6DEGREES, WHILE RHO-CHLOROANILINE GAVE 6, (RHO,CHLOROANILINO) PURINE, M. 317-19DEGREES. I AG SALT AND ACCL IN C SUB6 H SUB6 GAVE THE 9,AC DERIV. OF I, M. 134-6DEGREES, WHICH WITH PHNH 271-2DEGREES, WHILE HOLDING WITH AQ. MENH SUB2 2 HR GAVE 71PERCENT 6, METHYLAMINO,9, ACETYL PURINE, M. 219-21DEGREES. S, METHYL,6,METHYL,2, THIOURACIL AND HGCL SUB2 TREATED WITH BUOH IN THE PRESENCE OF PRIDINE 6 HR AT REFLUX GAVE 37PERCENT 2,BUTOXY,4, HYDROXY,6,METHYL PYRIMIDINE, M. 87-8DEGREES, WHICH WITH AQ. HCL GAVE 6, METHYLURACIL. SIMILARLY, S,METHYL,2, THIOURACIL GAVE 2, BUTOXY,4, HYDROXY PYRIMIDINE, M. 85-6DEGREES. THUS, HGCL SUB2 CATALYZES AMINATION OF I AND ALCOHOLYSIS OF S-ME THIOURACILS. INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR. FACILITY:

UNCLASSIFIED

V
Nitrogen Compounds

USSR

UDC 542.974 + 547.857

GRACHEVA, YE. P., VOLKOWA, Z. S., GUNAR, V. I., ARUTYUNYAN, E. A., and
ZAV'YALOV, S. I., Institute of Organic Chemistry imeni N. D. Zelinskiy,
Academy of Sciences USSR

"Methods for Activation of Purine and Pyrimidine S-Methylmercapto Derivatives in Reactions With Weakly Nucleophilic Compounds"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb
70, pp 420-423

Abstract: The article considers methods for the activation of 6-methylmercaptopurine (I) in reactions with aromatic amines, based on the drawing off of electrons from the sixth carbon atom of I by complexing with Lewis acids and the introduction of an electron-acceptor group into the molecule of I. The Lewis acids studied were $HgCl_2$, $CuCl_2$, $FeCl_3$, BF_3 , $ZnCl_2$, $CoCl_2$, $MnCl_2$ and $NiCl_2$. The strongest catalytic properties were found in $HgCl_2$. The use of $HgCl_2$ permits a sig-

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GRACHEVA, YE. P., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimi-
cheskaya, No 2, Feb 70, pp 420-423

nificant decrease in the reaction time for I with such aromatic amines as aniline and p-chloroaniline. Activation of I in the amination reaction also results from the introduction of an acetyl group in the ninth position of I. Attempts to activate the molecule of S-methyl-6-methyl-2-thiouracil in reactions with nucleophilic compounds were less successful. It was found that $HgCl_2$ does not have any significant catalytic effect on the amination of S-methyl-6-methyl-2-thiouracil with aniline. The alcoholysis of S-methyl-6-methyl-2-thiouracil and S-methyl-2-thiouracil by n-butanol in the presence of $HgCl_2$ and pyridine gives low yields.

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USSR

VOLKOVICH, V. L.

UDC: 62-50

"An Algorithm for Ordering Variants of a Complex Control System
by the Extent of Solution of a Fundamental Problem"

Kiev, Kibernetika i vychislitel'naya tekhnika, No 19, 1973, pp 3-9

Abstract: In the design of complex control systems based on a systems approach, problems arise connected with the choice of the best variant of the system, with several criteria of optimality considered. Since the number of such variants is very large, a reduction of possible choices is advisable; this can best be done by first ordering the variants. An algorithm for performing this ordering process is proposed -- the functioning of the algorithm requiring a number of individual subsystems, each entrusted with a particular task and working in a definite sequence. The process of interaction of these subsystems then becomes a time net. It is noted that the proposed algorithm reduces the number of iterations in the operation of the control system. It also has the advantage of making unnecessary the modeling of the whole operation process of the system, requiring only models for the operation of the individual subsystems.

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